

## Claims

We claim:

1. A method comprising the steps of :

(1) establishing an auction system;

5 and

(2) enabling the auction system so that it is responsive to constraints specified by or on behalf of a participant in the auction.

2. A method according to claim 1, wherein step 1 comprises establishing an auction system selected from the group consisting of an open cry auction, an ascending bid auction, and a descending bid auction.

10 3. A method according to claim 1, wherein step 2 comprises enabling the auction system so that it is responsive to constraints that characterize combinations of items within the auction system.

15 4. A method according to claim 1, wherein step 2 comprises enabling the auction system so that it is responsive to a budget constraint.

5. A method according to claim 4, wherein step 2 comprises enabling the auction system so that it is responsive to a budget constraint specified by or on behalf of a bidder.

6. A method according to claim 1, wherein step 2 comprises enabling the auction system so that it is responsive to constraints selected from the group consisting of a maximum quantity constraint, a minimum quantity constraint, a precedence constraint, and a general linear constraint.

7. A method according to claim 1, wherein step 2 comprises enabling the auction system so  
5 that it is responsive to seller constraints.

8. A method according to claim 7, wherein step 2 comprises enabling the auction system so that seller constraints specify a minimum value for a combination of items.

9. A method according to claim 7, wherein step 2 comprises enabling the auction system so  
that seller constraints specify a minimum value for a combination of a minimum number of items  
10 to be sold.

10. A method according to claim 7, wherein step 2 comprises enabling the auction system so that seller constraints specify a minimum value for a combination of items correlated to a  
precedence relationship.

11. A method according to claim 1, further comprising a step 3 of determining winners from  
15 among the participants in the auction.

12. A method according to claim 11, comprising a step 4 of applying an integer program for determining said winners.

13. A program medium executable in a computer system for facilitating an auction, the program medium comprising steps for:

(1) establishing an auction system;

and

5 (2) enabling the auction system so that it is responsive to constraints specified by or on behalf of a participant in the auction.